

REMARKS

Status of the Claims

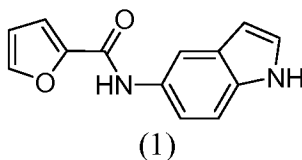
Claims 25, 28 – 34, and 38 - 46 are currently pending. Claims 1 – 24, 26 - 27, and 35 - 37 have been previously cancelled. The claims are presently amended merely to further define the invention and to correct claim formalities. New Claims 42 – 46 have been added; Claim 42 - 45 are supported by the specification as filed, for example, paragraphs [0020] - [0026] and [0042]. Claim 46 is supported by the specification as filed, for example, Claim 29. No new matter is introduced by the present claim amendments.

Claim 25 has been further amended to add the phrase “then R¹¹ is” to clarify the definition of L¹¹; and to correct “iscarbonyl” to read “is carbonyl” to correct an obvious mistake. The amendment to the definition of R¹¹ corrects an obvious error as it is clear from the definition of L¹¹ that it cannot be phenyl or heteroaryl. Furthermore, the specification also makes clear that R¹¹ is phenyl or heteroaryl when L¹¹ is carbonyl (see paragraphs [0030] – [0033], [0047]–[0048], the compounds of paragraph [0040], Schemes 2 - 3, paragraphs [00102] – [00181], and the compounds of Tables 2 – 5).

Rejection of Claim 25 under 35 U.S.C. § 102

(A) Claim 25 stands rejected as allegedly being anticipated by WO 98/06402 (“Johnson”). Applicants respectfully traverse.

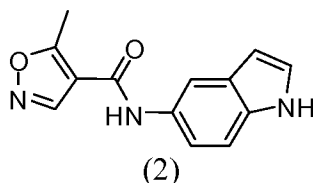
The Office has cited the compound,



which Johnson discloses (see, Example 111 (A)) as an intermediate compound for the preparation of compounds which are not presently claimed. Applicants note that compound (1) does not satisfy the structural requirements of the instant claims, namely, that R²² is C₁-C₆ alkyl. Therefore, Johnson does not anticipate the instant claims; Applicants respectfully request reconsideration and withdrawal of the rejection by the Office.

(B) Claim 25 stands rejected as allegedly being anticipated by US Pat. No. 5,494,911 (“Bartlett”). Applicants respectfully traverse.

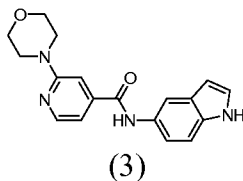
The Office has cited the compound,



which Bartlett discloses at Example 41. Applicants note that compound (2) does not satisfy the structural requirements of the instant claims, namely, that R²² is C₁-C₆ alkyl. Therefore, Bartlett does not anticipate the instant claims; Applicants respectfully request reconsideration and withdrawal of the rejection by the Office.

(C) Claim 25 stands rejected as allegedly being anticipated by US Appl. No. 2005/0124620 (“Frederickson”). Applicants respectfully traverse.

The Office has cited the compound,



which Bartlett discloses at Example 23A. Applicants note that compound (3) does not satisfy the structural requirements of the instant claims, namely, that R²² is C₁-C₆ alkyl. Therefore, Frederickson does not anticipate the instant claims; Applicants respectfully request reconsideration and withdrawal of the rejection by the Office.

Rejection of Claims 30 - 34 under 35 U.S.C. § 112, 2nd paragraph

Claims 30 – 34 presently stand rejected for lacking sufficient antecedent basis for the phrase “pharmaceutical composition.” The claims are presently amended to correct the objected terminology by deleting the term “pharmaceutical.” Applicants respectfully request reconsideration and withdrawal of the rejection by the Office.

Claim Objections

- (1) Claim 25 has been amended to correct “5” to read “S” as required by the Office.
- (2) Applicants thank the Office for recognizing the novelty of claims 28 and 29 if written in independent form.

(3) The Applicants acknowledge the objection to the presently pending claims for containing non-elected matter but respectfully traverse in view of the foregoing remarks regarding the rejections under 35 U.S.C. § 102.

The Office has alleged that there is at least one Markush alternative that is not novel over the prior art, and subsequently restricted examination of the preceding generic structure to compounds wherein R²² and R³³ are as defined in Claim 25, and R⁴⁴ is optionally substituted C₃₋₆ monocyclic heteroaryl containing at least one N, O, or S atom; or optionally substituted C₃₋₆ monocyclic heterocycloalkyl containing at least one N, O, or S atom.

Applicants submit that the instant restriction of the instant claims, which was based on the allegation that the broader scope was anticipated is improper in light of the foregoing amendments and remarks regarding the outstanding rejections under 35 U.S.C. § 102.

In view of the foregoing, applicants submit the examination of the full scope of the present claims is required by M.P.E.P. § 803.02:

An Examiner should set forth a requirement for election of a single disclosed species in a Markush-type claim. . . . Following election, the Markush-type claim will be examined fully with respect to the elected species, and further to the extent necessary to determine patentability. If the Markush-type claim is not allowable, the provisional election will be given effect and examination will be limited to the Markush-type claim and claims to the elected species. . . . Should applicant . . . overcome the rejection [e.g., by amendment] . . . the amended Markush-type claim will be reexamined. The examination will be extended to the extent necessary to determine patentability of the Markush-type claim.

(4) Applicants thank the Office for entering the previously filed amendments that lacked marking showing the claim amendments. For completeness, a “marked-up” version of the claims as presented in the response filed with the Office on February 6, 2007 is enclosed herewith in Appendix A.

CONCLUSION

Applicants respectfully submit that all requirements of patentability have been met. Allowance of the claims and passage of the case to issue are therefore respectfully solicited.

If the Examiner has any questions or comments regarding this Amendment, they are encouraged to contact the undersigned as indicated below.

Respectfully submitted,

Date: June 4, 2007

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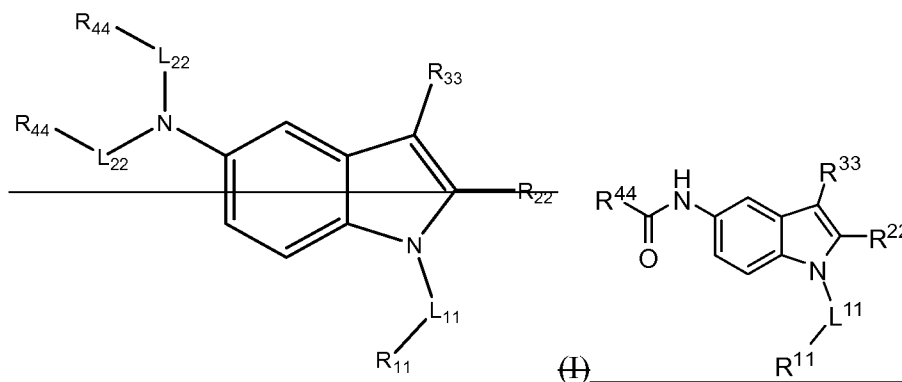
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APPENDIX A

“Marked-up” Version of Amended Claims filed February 6, 2007

1-24 (Cancelled)

25. (Currently amended) A composition comprising a pharmaceutically acceptable carrier, excipient, or diluent together with a compound of the formula I :



or a pharmaceutically acceptable salt thereof, wherein:

L^{11} is ~~carboxyl~~carbonyl, or a covalent bond when R^{11} is H;

R^{11} is H except when L^{11} is ~~carboxyl~~carbonyl, phenyl substituted with 1-3 R^{50} , or C_{4-6} -heteroaryl containing 1-3 heteroatoms selected from the group N, S, and O and substituted with 1-3 R^{50} ;

R^{22} is H, or C_{1-6} alkyl;

R^{33} is H, ~~CH_3~~ or C_{1-3} alkyl;

each L^{22} is ~~independently carboxyl ($C(O)$), C_{1-4} alkyl, C_{1-4} alkyl $C(O)$ or a covalent bond;~~

each R^{44} is ~~independently~~ H, optionally substituted C_{1-6} alkyl, optionally substituted C_{3-7} cycloalkyl, optionally substituted C_{3-7} heterocycloalkyl containing at least one N, O or S atom, C_{3-7} cycloalkanone, optionally substituted C_{3-7} monocyclic or C_{7-13} bicyclic aryl, optionally substituted C_{3-6} monocyclic or C_{5-13} bicyclic heteroaryl containing at least one N, O, or S atom, or optionally substituted C_{3-6} monocyclic or C_{5-13} bicyclic heterocycle containing at least one N, O, or S atom, wherein said optional substitutions are one to four R^6 groups;

each R^{50} is independently H, halo, Cl, F, CF_3 , C_1 - C_3 per fluoro, C_1 - C_3 perhalo, $-OC_1$ - C_3 perhalo, NO_2 , CH_3 , R^7 , $-OCH_3$, $-OR^7$, $-SR^7$, $-CN$, $-NHR^7$, $-N(R^7)_2$, $-CON(H)R^{23}CON(R^7)_2$, $-R^{23}N(H)R^7$, $-R^{23}N(R^7)_2$;

each R^6 is independently H, halo, Cl, F, $-\text{CF}_3$, $-\text{NO}_2$, $-\text{R}^{50}$, $-\text{SR}^{50}$, $-\text{OR}^{50}$, $-\text{CN}$, $\text{N}(\text{R}^{50})_2$, $-\text{C}(\text{O})\text{R}^{50}$, $-\text{R}^{23}\text{C}(\text{O})\text{R}^{50}$, $-\text{CON}(\text{R}^{50})_2$, $\text{C}_4\text{-C}_6$ cycloalkyl, C_{3-7} cycloalkanone, C_{4-6} cycloalkylamine, C_{3-6} monocyclic or C_{5-13} bicyclic heteroaryl containing at least one N, O, or S atoms or a $\text{C}_6\text{-C}_{12}$ monocyclic or bicyclic heterocycle containing at least one N, O, or S atom;

R^7 is H, halo or C_{1-6} alkyl;

R^{23} is a bond or is $\text{C}_1\text{-C}_6$ alkyl;

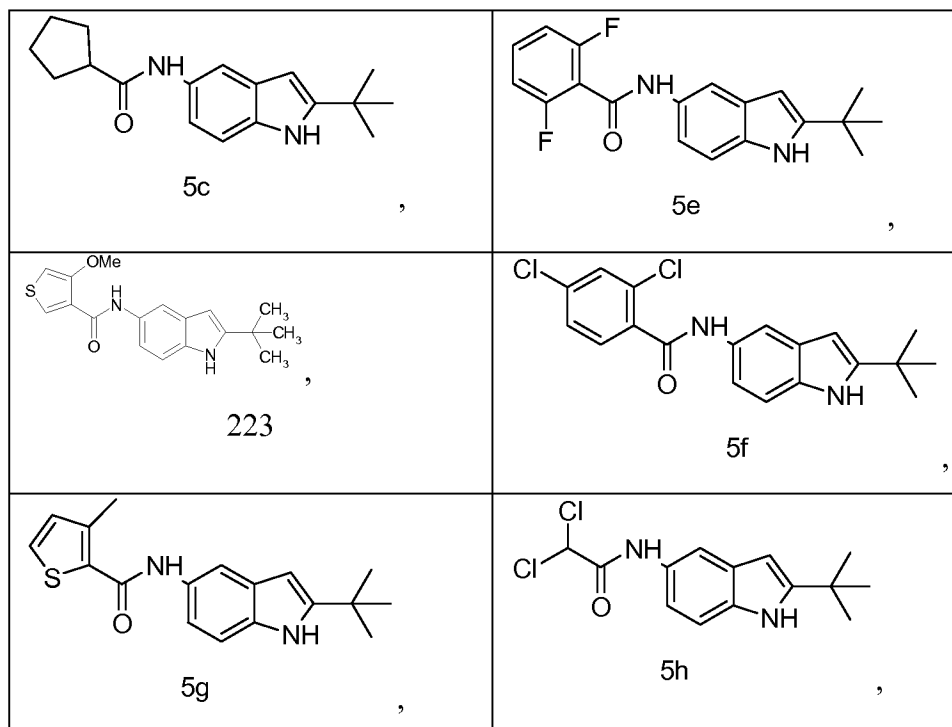
with the proviso that R^{22} is not CH_3 when R^{11} is H.

26. (Cancelled)

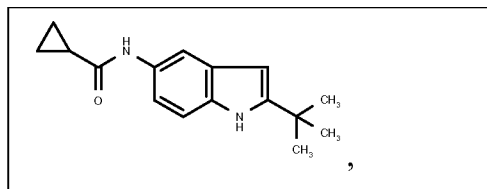
27. (Cancelled)

28. (Currently amended) A composition according to ~~claim 27~~ claim 25 wherein R^{22} is t-butyl or neo-pentyl.

29. (Previously presented) A composition according to claim 28 wherein said compound is selected from the group consisting of:



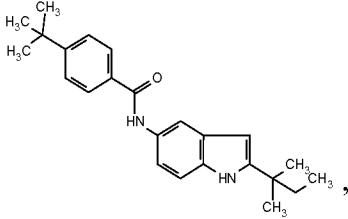
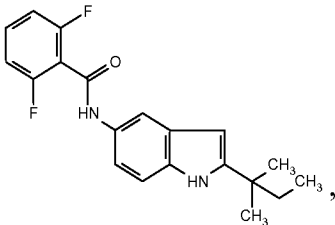
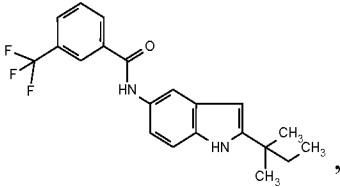
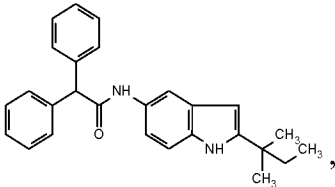
APPENDIX A
“Marked-up” Version of Amended Claims filed February 6, 2007

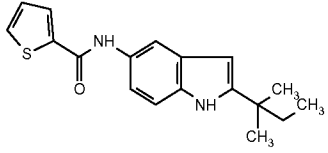
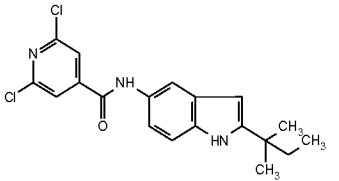
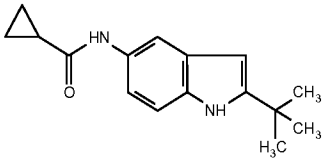
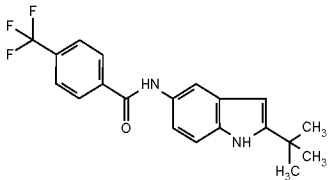


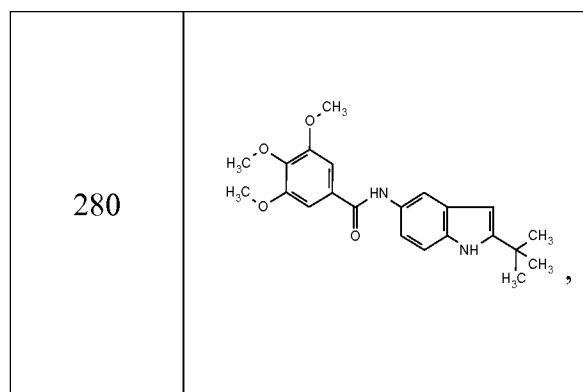
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APPENDIX A
“Marked-up” Version of Amended Claims filed February 6, 2007

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30. (Currently Amended) A pharmaceutical composition according to ~~claim 27~~claim 25 wherein for said compound L¹¹ is ~~carboxyl~~carbonyl.
31. (Previously presented) A pharmaceutical composition according to claim 30 wherein for said compound R¹¹ is phenyl or pyridyl.
32. (Previously presented) A pharmaceutical composition according to claim 31 wherein for said compound R²² is CH₃.
33. (Previously presented) A pharmaceutical composition according to claim 32 wherein for said compound R³³ is H or CH₃.
34. (Previously presented) A pharmaceutical composition according to claim 31 wherein for said compound R³³ is H or CH₃.
35. - 37. (Cancelled)
38. (Previously Presented) A method of treating a mammal infected with HCV, said method comprising administering to said mammal a therapeutically effective amount of a composition according to claim 25.
39. (Currently amended) A method of treating a mammal infected with HCV, said method comprising administering to said mammal a therapeutically effective amount of a composition according to ~~claim 35~~claim 30.
40. (Previously Presented) The method of claim 38, wherein said mammal is a human.
41. (Previously Presented) The method of claim 39, wherein said mammal is a human.